twenty grains of sulphate of soda, about ten grains of carbonate of soda, some chloride of sodium, a little carbonate of lime, and carbonate of iron, and other ingredients in minute quantities. It is also charged with a certain amount of carbonic acid gas. Other springs contain the same ingredients in nearly the same proportion, the cooler springs being more highly impregnated with carbonic acid. The flavour of the warm waters is slightly saline and alkaline, and has been likened to that of weak chicken-broth. It is at first unpleasant to the palate, and the drinking is often attended with a sense of nausea; but use soon overcomes these objections. Patients at the commencement of the "cure" take but two or three cups, and gradually increase the quantity according to the directions of the local physician.

What should we expect to be the therapeutical action of a water the principal ingredients of which are sulphate and carbonate of soda? Sulphate of soda alone, in common with other sulphates, would seem, according to the investigations of Buchheim, as cited by Sidney Ringer, to act by virtue of its power to retain in the intestine the water existing there. It does not appear to excite any flow from the blood, or stimulate the secretion of the intestinal glands; nor does the purgative action appear to be due in any material degree to stimulation of the peristaltic action of the intestines, as it is unattended by pain and griping. Retaining the water in which it is dissolved, and that which it meets with in the intestines, Glauber's salt has for its effect to loosen and soften and carry down dried fecal masses, tenacious mucus, bile, &c. The alkaline carbonate would act by neutralising free acids in the alimentary canal, by exciting the secretions of the intestinal glands; and it would also assist in determining the diuretic action of the water. But the mode of action of the principal ingredients will not altogether explain the effect produced by the continued imbibition of a mineral water into the composition of which many ingredients enter, and are happily blended in nature's own fashion.

What is the practical result of drinking the Carlsbad waters? They do not produce such rapid action or such fluid stools as Püllna and other waters in which sulphate of magnesia forms a prominent ingredient. They, however, even when first taken, and in moderate quantity, usually induce an effective emptying of the bowels, causing pulpy, slimy stools, of dark colour and offensive odour. The stools are generally frequently repeated, and the patient is astonished at the quantity that sometimes comes away. The action is, as a rule, perfectly easy. When the waters have been persevered in for some time, or taken in undue quantity, teasing watery stools may result, and then moderation in, or temporary abstinence from, the drinking is indicated. The waters vary in their effect with different people. Much purging is not always essential; and, indeed, as Dr. Hlawacek happily remarks, whoever requires merely this result need not travel several hundred miles to Carlsbad for the purpose. In many persons no very evident symptoms beyond the purgative action attend the drinking of the waters. Others, however, suffer from disturbance of the nervous system or circulation, and other functional derangements. But when the waters act favourably such derangements pass off, and the ultimate effect is improvement of appetite, loss of superfluous fat, free unloading of the abdominal viscera, and, as a consequence, a sense of lightness and buoyancy, and increased tone of system generally. In some cases, what certain writers speak of as a crisis occurs in the course of the "cure," such crisis consisting in the disturbances and derangements just alluded to. Dr. James Johnson, however, well remarks that the so-called crisis or spa-fever is merely "an act of salutary rebellion on the part of Nature against the injudicious employment of the waters."

(To be continued.)

ANTINEURALGIC SNUFF.—The "Rivista Clinica di Bologna" mentions an antineuralgic snuff prescribed with success in cases of facial neuralgia, by Dr. Scriffignano. The base of the snuff is quinine, and its composition as follows:—Citrate of quinine, ten grains, very strong; exciting snuff (tobacco), fifteen grains. The medicament is said to act almost directly on the diseased nerve through the ethmoidal thread of the nasal ramus of Willis's ophthalmic, a branch of the fifth pair.

DESCRIPTION OF A GROOVED CATHETER WITH CONDUCTING BOUGIE, WITH REMARKS ON ITS VALUE.

By W. F. TEEVAN, B.A., F.R.C.S.,

SURGEON TO THE WEST LONDON HOSPITAL, SURGEON TO ST. PETER'S HOSPITAL, LATE LECTURER ON ANATOMY AT THE WESTMINSTER HOSPITAL.

THE instrument I am about to describe is one of the most useful for the treatment of impassable stricture, retention of urine from stricture, and for effecting an entry into the bladder in those cases where the difficulty is caused not so much by the narrowness of the canal as its deformity (Delpech), a condition that is but little recognised in this country, and which I may best describe by saying that it means a crookedness of the urethra, caused by constrictions and the dilatations resulting therefrom, and necessarily occurring posteriorly to such strictured points. The idea of sliding one instrument over the other is by no means new, and originated, I believe, with Nauche, in 1816, and was employed by Civiale in 1823.* The method has also been well known for a great many years to M. Auguste Mercier.† The Americans would seem to be ahead of us on this point, for they have for some time possessed a most beautiful and useful instrument, designed, I believe, by Professor Gouley, of New York. In this country the method of treating stricture by sliding one instrument over another has been prominently brought before the profession by Mr. Thomas Wakley, but has not received that attention which its usefulness deserves. I am informed that the late Mr. Solly employed an elastic catheter open at both ends, which he slid along a catgut bougie, and I have lately seen this plan tried by my colleague, Mr. Walter Coulson; but I consider it open to objection, for the catgut bougie is soon affected by the moisture of the canal, becomes twisted and knotted, and thus makes it difficult, and sometimes impossible, to slide a catheter over it. Apart from the gentlemen whose names I have mentioned, I believe that the method is but little known in this country. I would premise my observations by saying that the whalebone bougie is really the invaluable portion of the compound instrument I am about to describe. It often happens that no silver or elastic catheter can be got into the bladder, and yet a fine bougie may be passed with ease, and the retention relieved. Such a case I have recorded in the Transactions of the Clinical Society (see vol. iv., p. 124). Having succeeded in getting such an instrument into the bladder, there are often reasons which make it desirable or necessary that we should pass another kind of instrument, either for operation or dilatation, and it therefore becomes of the highest importance to utilise the bougie that has been passed into the bladder, and this is best done by retaining it *in situ* till we have been enabled to slide a larger instrument over it. I would, indeed, go further, and say that in some cases a fine bougie is the only instrument which can be got into the bladder, and that unless it is utilised we cannot proceed with the treatment of the case. Again, there are cases, complicated with false passages, where no instrument can be introduced except a bougie with some peculiar twist, and where our only chance of progress lies in enlarging the canal by sliding one instrument over another.

The instrument I am in the habit of using differs in some respects from Professor Gouley's, and is, I think, superior to it. I will first describe it, and then show the differences between the two. The conducting bougie is made of whalebone, and is excessively fine, having each end olive-shaped, which prevents the instrument from pricking the mucous membrane or lodging in the lacunæ. The material of which the bougie is composed imparts great elasticity combined with firmness, and thus admirably fits it for getting through very indurated strictures where the entrance is often reduced to a pin's point. Care ought to be taken that the bougie is at least two inches longer than the catheter, other-

* See *Traité des Maladies des Voies Urinaires*, par le Dr. Phillipps, p. 425.

† See his *Recherches sur le Traitement des Maladies des Organes Urinaires*, 1856, p. 165.

wise the former may recede insensibly from the bladder as it is held forcibly between the thumb and forefinger of the left hand to resist the tendency which the catheter has to carry the bougie with it as it is sliding over it into the bladder. The catheter is about the size of a No. 1 English, and its end is cut off to permit the bougie to enter the canal at A (Fig. 1) and emerge at B through the slit extending from B to C, which serves as a groove for subcutaneous or external urethrotomy. Fig. 2 shows that the groove is made by cutting out a longitudinal piece of the catheter. Urine will not escape through it, for the mucous membrane is tightly stretched across it, and so completely closes the groove.

The three differences between Professor Gouley's instrument and the one I have described are:—1. Mine is much smaller. 2. The groove is made by cutting a piece out of the catheter, but in Professor Gouley's it is made by driving in the wall of the catheter, and thus necessarily diminishing the calibre of the canal. (See Fig. 3.) This explains how it is that a smaller instrument can be constructed after my plan than Professor Gouley's. 3. The illustration shows that the bougie in my instrument is contained for about one inch and a half in the canal from A to B, but in Professor Gouley's it is only passed through a little bridge at the end, not more than one-eighth of an inch broad, and is thus far more likely to become entwined round the catheter than when it passes through a considerable portion of the instrument. Any surgeon can have one of his small catheters converted into the one I have described for an insignificant sum, and so be spared the expense of buying a new instrument. In introducing the bougie into the bladder, it is well to rotate the instrument as we proceed, for by that procedure we avoid all chance of slipping into the lacunæ on the way. It sometimes happens that, although we can pass the bougie through the stricture, we are unable to make the catheter pass along it, on account of the narrowness of the strictured part. In such a case it is well to leave the bougie in the bladder for several hours, and then try again. The compound instrument I have described will be found most useful, (1) for the relief of retention; (2) for the purposes of dilating the stricture; (3) for external urethrotomy; and lastly, for subcutaneous urethrotomy.

Portman-square.

ENLARGEMENT OF THE SPLEEN FROM RICKETS SIMULATING MALIGNANT DISEASE OF THE KIDNEY.*

By C. CURRIE RITCHIE, M.D.,

ASSISTANT-PHYSICIAN TO THE MANCHESTER ROYAL INFIRMARY;
PHYSICIAN TO THE HULME DISPENSARY.

HARRY F—, aged two years and a half, was brought to me on the 28th November, 1872, suffering from abdominal tumour. He was the only child of healthy parents, but his father's brother was said to have died of cancer of the liver. At the age of fourteen months a swelling "as hard as a board" was detected in the left side of the abdomen, which was tumid all over. This tumour gradually enlarged, and the child became atrophic; his appetite, however, continued ravenous until about a week prior to my seeing him. The bowels were usually relieved once every two or three days. The urine had been scanty for many months, but two days ago he passed "about a pint." Since then he has only passed water once, and it seemed to his mother to contain blood. He has had a good deal of pain in the abdomen, and has suffered from great thirst.

On examination, the child was extremely emaciated and cachectic, his complexion being greenish-yellow, and his face greatly pinched and wrinkled. His aspect was indicative of great suffering. There was marked beading of the ribs, and a slight degree of "pigeon-breast"; anterior fontanelle not entirely closed; no other indication of rickets; no œdema anywhere. The abdomen was much enlarged, especially on the left side; veins of abdominal wall also enlarged and tortuous, chiefly on the left side. A solid tumour, somewhat globular in shape, uniform on the surface, and with a diameter of $5\frac{1}{2}$ in. by $4\frac{1}{2}$ in., could be distinctly felt occupying the left hypochondriac, the umbilical, and left iliac regions. It did not move with respiration or palpation; but during deep respiration the hand could feel its *distinctly-rounded edge* in front. The area of the tumour was absolutely dull on percussion, and there was impaired percussion all over the left side of the abdomen. The hepatic dulness extended about two inches below the costal margin. The front of the chest alone was examined; nothing abnormal detected. He passed about an ounce of urine soon after I examined him; it was of a dull-red colour, acid, and albuminous to the extent of about one-third. On standing, it deposited a quantity of minute blood-clots; and, on microscopical examination, numerous blood-corpuscles were observed. No casts could be detected. There was also blood diffused through the urine. The child gradually sank, and died next morning.

It was not till the fourth day after death that I got permission to open the abdomen only. I then found that the tumour which occupied the situation above described was formed by a greatly enlarged spleen of firm and dense consistence, and of a deep purple-red colour. On section, small dots or specks of a pale buff colour were seen surrounded by this purplish substance. Under the circumstances in which the autopsy was made the organs could not be weighed, but the spleen seemed to be nearly a pound in weight. A section was secured for microscopical examination, which showed that the specks of lighter colour were due to enlarged Malpighian corpuscles; that the trabeculæ were swollen in an irregular manner, in consequence of which the interspaces were much smaller than natural; the cellular and corpuscular elements seemed increased, and were closely packed in the areolæ. The larger fibrous septa appeared to be normal, with the exception of their being widely separated by the increased bulk of the trabecular and proper spleen structure. On being treated with iodine, no reaction was obtained, like that which occurs in lardaceous organs. The liver was larger than natural, but the enlargement was not proportionate to that of the spleen. It was smooth, somewhat dense, and rather pale in colour, containing little blood. Microscopic examination showed increased development of the portal fibrous tissue. The kidneys were smooth and pale, but smaller than natural; otherwise they seemed perfectly healthy. The thorax was opened from the

* Communicated to the Manchester Medical Society.